DOCUMENT RESUME

ED 075 554 UD 013 545

AUTHOR	Friend, Ronald M.; Neale, John M.
TITLE	Perceptions of Success and Failure by Disadvantaged Elementary School Children. Final Report.
INSTITUTION	State Univ. of New York, Stony Brook.
SPONS AGENCY	National Center for Educational Research and Development (DHEW/OE), Washington, D.C. Regional Research Program.
PUB DATE	Nov 72
GRANT	OEG-2-71-0131
NOTE	21p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Academic Achievement; Caucasian Students; *Disadvantaged Youth; *Elementary School Students; Individual Characteristics; Individual Power; *Motivation; Negro Students; *Perception; Racial Differences; Self Concept; Sex Differences; Social Differences; Socioeconomic Status; Urban Youth

ABSTRACT

Attribution theory provides a way of interpreting achievement motivation which ties together the achievement motive and the sense of control variable (Coleman, et al.). In addition to this conceptual clarity, attribution theory has an advantaged in potential programs for implementing change. The research described here was directed toward an attribution theory analysis of academic achievement of Negroes. The purpose of the research was to systematically observe and evaluate causal factors in determining academic performance among subjects varying in social class and race. In the first study, attributions to the four factors of ability, effort, task difficulty, and luck were examined in order to determine their effects on feelings of pride-shame and subsequent action. The second study focused on the basic premise of the present research, i.e., there are racial and/or social class differences in how success and failure are interpreted. One hundred and twenty Grade Five children were selected as subjects from three schools in a school district with a population which was heterogeneous in both social class and racial background. In the third study, self-reward was used as a nonverbal indicant of the extent to which internal attributions are being made. Ninety-six fourth and fifth graders were tested. They were divided into six groups of 16 subjects each on the basis of sex, race, and socioeconomic status. (Author/JM)

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

Abstract

The Coleman et al. report (1966) found that black children believed that they have little control over their environment and that this variable was strongly related to academic achievement. The present research was aimed at further studying the sense of control variable using the concepts of attribution theory.

The major studies in the present report examined racial and social class differences in how success and failure outcomes are interpreted. Based on the findings of Coleman et al. it was expected that black children would be more likely to attribute success experiences to the external attributional factors of luck and task ease. In both studies elementary school children of varying racial and social backgrounds performed an achievement task. In the first study they were then asked to interpret how much of their performance was due to each of the attributional factors. In the second study, they were allowed to reward themselves; more self-reward is an indicant of more internal attributions. Racial or social class differences were not found in either study.

FILMED FROM BEST AVAILABLE COPY

ED 075554

Final Report

Project No. 10131B

Grant No. OEG-2-710131

PERCEPTIONS OF SUCCESS AND FAILURE BY DISADVANTAGED ELEMENTARY SCHOOL CHILDREN

Ronald M. Friend and John M. Neale

State University of New York at Stony Brook

Stony Brook, New York

November 1972

The research reported herein was performed pursuant to a grant with the Office of Education, U. S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education

National Center for Educational Research and Development

UD 013545

INTRODUCTION

The inequality between Negroes and whites in academic achievement looms as a major problem confronting current American society. The pervasive influence of education in American society further magnifies the problem since differences in educational levels can be expected to manifest themselves in differences in employment, income, job status, and housing. Thus, low academic performance and attained level of education exert a profound influence both on the individual and throughout the society. The crucial problem, then, is to identify the parameters of the problem. What factors are related to the difference in academic achievement between Negroes and whites?

The Coleman survey (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld and York, 1966) has documented the well known differences in academic achievement between Negroes and whites. In all grade levels and in all geographic regions, Negroes were found to be about one standard deviation below the white average. In addition, the Coleman survey identified a potentially important personality correlate of low Negro achievement. If further research corroborates and extends these findings, the door may be opened to intervention programs based on this variable.

Coleman et al. (1966) measured three types of attitude relevant to achievement motivation:

1. interest in school work
2. Self-concept of ability
3. sense of control over rewards

No Negro-white differences were present on the two first classes of attitudes measured. Sense of control was indexed by the following three questions:

1. Agree or disagree: Good luck is more important than hard work for success.
2. Agree or Disagree: Everytime I try to get ahead, something or somebody stops me.
3. People like me don't have much of a chance to be successful in life.

Negroes were found to have a low sense of control, especially on the "good luck" question. Further, among Negroes the sense of control variable was strongly related to scores on a reading test. Negro children who exhibited

a sense of control scored higher than those who did not. The magnitude of this relationship can be illustrated by comparing the achievement scores of Negroes who gave "control" responses and whites who gave "luck" responses. In both Northern and Southern samples, Negro ninth graders who believed in personal control surpassed whites who believed in the greater importance of luck. As a further illustration of the importance of the control variable it should be noted that not only was sense of control more strongly related to achievement than any other attitudinal variable, but it also surpassed the host of family background factors studied.

In sum, a personality variable of considerable importance to Negro achievement has been identified. However, the causal linkage between sense of efficacy and academic achievement cannot be ascertained from Coleman's correlational analysis. As Pettigrew (1969) has noted:

> *What precisely is the process underlying the high association between the Negro child's sense of environmental control and his achievement scores? And how might this sense of control of the environment be learned in school?...Systematic funding, both public and private, is needed to encourage and make possible a systematic attack on these vital questions.*
> (pp. 65-66)

Our knowledge concerning how the sense of control variable operates may be increased by analyzing it in terms of achievement motivation. Atkinson (1964) has conceptualized the achievement motive as a resultant of a conflict between the tendency to approach success and the tendency to avoid failure, each of which is elicited to some degree in an achievement situation. The tendency to approach success is a resultant of a multiplicative relationship among three variables:

1. motive to approach success (Ms), a relatively stable personality disposition assessed from achievement imagery on a projective test and scores on a paper and pencil anxiety test. Individuals high in Ms exhibit high achievement imagery and low test anxiety.
2. the subjective probability of success on the task.
3. the incentive value of success on the task which is inversely related to the probability of success.

Similarly, the tendency to avoid failure results from:

1. motive to avoid failure (Maf), assessed in the same way as Ms but this time indicating little achievement imagery and high test anxiety.
2. the subjective probability of failure on the test.
3. the incentive value of failure.

When Ms $\succ$ Maf, greater value is given to the approach tendency. Conversely, when Maf $\succ$ Ms, avoidance will ensue.

Atkinson's model of the achievement motive has had considerable success in predicting differences between high and low need achievers in the following situations (for a review see Atkinson, 1964):

1. Free-choice. Subjects in whom Ms $\succ$ Maf approach achievement related tasks more than do subject in whom Maf $\succ$ Ms.
2. Forced-choice. Subject in whom Ms $\succ$ Maf choose tasks of intermediate difficulty more often than do subjects in whom Maf $\succ$ Ms. This is because when Ms $\succ$ Maf resultant achievement motivation is at a maximum when probability of success on a task equals .50. In this condition the multiplicative relationship between probability of success and incentive value of success is at its maximum of .25. Similarly, the maximum avoidance tendency occurs at probability of success of .50 for subjects in whom Maf $\succ$ Ms.
3. Magnitude of performance. Subjects in whom Ms $\succ$ Maf work harder than subjects in whom Maf $\succ$ Ms.
4. Persistence. Subjects in whom Ms $\succ$ Maf persist longer than subjects in whom Maf $\succ$ Ms.

The relationship between sense of control and achievement motivation can now be presented by discussing the attribution theory of achievement motivation. Attribution theory concerns the process by which an individual interprets events (Kelly, 1967). Applied to the academic situation, attribution theory is concerned with interpretations of successes and failures. In an academic situation individuals have four sources of data which could be used for interpretation and for prediction. The four factors are ability, effort, task difficulty, and luck. Two of these factors -- ability and effort -- describe characteristics of the person; while the remaining two factors -- task difficulty and luck -- are external, environmental factors. The four factors can also be classified on a stable vs. unstable dimension. Ability and task difficulty are relatively stable, while effort and luck are transient. Taking the two dimensions together, the following four-fold classification scheme may be presented.

	Stable	Unstable
Internal	Ability	Effort
External	Task Difficulty	Luck

The basic postulate linking attributions to achievement motivation is that individuals in whom Ms > Maf will be more likely to attribute success to personal characteristics (ability and effort) than will individuals in whom Maf > Ms (Weiner and Kukla, 1970; Weiner, Frieze, Kukla, Reed, Rest, and Rosenbaum, in press). That is, a correlation is predicted between achievement motivation and perceptions of success as self-determined.

The four areas of research bearing on achievement motivation may now be re-examined employing Weiner's analysis. The predictions of attribution theory are congruent with the extensive data already collected in these areas. The advantage of the attributional analysis lies in the insights it provides concerning the interpretation of these data and the possible intervention procedures which are suggested.

1. Free-choice. Individuals high in achievement motivation more often approach achievement tasks since they experience more reward from such tasks.

2. Forced-choice. As discussed previously, Atkinson's prediction of preference for tasks of intermediate difficulty rests on the assumption of an inverse relationship between probability of success and the incentive value of success (for criticisms of this assumption see Heckhausen, 1969; and Weiner, 1970). Attribution theory accounts for this relationship as follows: With very easy or difficult tasks most people will either succeed or fail and these outcomes will be attributed to task factors. The choice of very easy or very difficult tasks, then, provides the chooser with primarily task relevant rather than personally relevant information. Therefore, people who choose tasks of intermediate difficulty (high need achievers) are indicating a preference for situations in which they can make internal attributions. Conversely, people who choose very easy or very difficult tasks may be avoiding information about themselves.

3. Magnitude of performance. People who perceive that outcomes and effort are highly related (high need achievers) can be expected to work harder at achievement tasks.

4. Persistence. In situations of failure, people in whom Ms $\geq$ Maf will attribute their poor performance to lack of effort, while individuals in whom Maf $\geq$ Ms will attribute their failure to lack of ability. If failure is attributed to a transient factor such as effort (as is done by a high need achiever), future successes are still within the realm of possibility. Hence, persistence can be expected. Conversely, if failure is perceived as due to lack of ability (as is done by a low need achiever) there is little possibility of improvement and persistence will be minimal.

Weiner's attributional analysis of the achievement motive has been supported by several recent investigations (Weiner and Kukla, 1970; Weiner, et al., in press). The basic postulate of the theory was supported by two experiments in which subjects made attributions to the four factors following either success or failure. The task had been specially constructed so that it was somewhat ambiguous with respect to the possible causes of success or failure. Following success, subjects high in achievement motivation were more prone to attribute their performance to ability and effort, while subjects low in achievement motivation were more likely to attribute their performance to task ease.

The theory also asserts that subjects should differentially reward themselves depending on whether they attribute a success to internal or external factors. Specifically, more self-reward is expected when a subject believes that the success outcome was produced by his own ability or effort. This prediction was supported in a study by Cook (1970). Grade schoolers high in internality for success rewarded themselves more for their performance than did subjects low in internality for success. Similarly, in a correlational study, grade school children high in achievement motivation were more likely to assume responsibility for success than were subjects low in achievement motivation.

In sum, attribution theory provides a way of interpreting achievement motivation which ties together the achievement motive and Coleman et al.'s sense of control variable. In addition to this conceptual clarity, attribution theory has an advantage in potential programs for implementing change. Consider a case of a misattribution wherein a person incorrectly attributes his successful outcomes to an external factor. Demonstrating the covariation between effort and outcomes to such a person can be expected to change attributions so that successes would now be correctly perceived as due to his own efforts. Attribution theory has already been successfully applied, along the lines suggested above, to problems of insomnia and snake phobias construed in attributional terms (Storms and Nisbett, 1970; Valins and Ray, 1967).

The research described here was directed toward an attribution theory analysis of academic achievement of Negroes. The purpose of the research was to systematically observe and evaluate causal factors in determining academic performance among subjects varying in social class and race. In addition, some of the research contributed in a more general sense to the attribution theoretic approach to achievement motivation.

METHODS

Study I

The first study was designed to clarify one aspect of attribution theory before beginning to focus on racial factors. In the Weiner and Kukla studies, the primary emphasis was on ability and effort while the variables of task difficulty and luck were neglected. In the present study, attributions to all four factors were examined in order to determine their effects on feelings of pride-shame and subsequent action. Additionally, a measure of achievement motivation was obtained in order to investigate the possible effects of this variable in interaction with all four attributional factors. Finally, several dependent variables were included: pride and shame were assessed but in addition subjects were asked the likelihood of engaging in a subsequent, more difficult task and were asked to predict how they would perform on such a task. Thus, it was possible to determine whether the attributional factors associated with pride-shame are also associated with the willingness to engage in a subsequent task and with the expected probability of success on such as task.

Subjects and Procedure

Nineteen female and 11 male introductory social psychology students were asked to complete several personality questionnaires including a true-false measure of need-achievement from the Personality Research Form (Jackson, 1965) and a shortened true-false version of the test Anxiety Scale (Sarason and Ganzer, 1962). In a second questionnaire subjects were told that the examiners were interested in how people feel after getting different grades in courses and were asked to evaluate 80 possible academic situations involving all possible combinations of the following: (1) grade (A, B, C, D, or F), (2) ability (high or low), (3) effort (high or low), (4) test difficulty (easy or hard), and (5) luck (lucky or unlucky). Following each of the situations, subjects were asked to rate on a 100-mm scale (1) how much pride or shame they would feel in the situation, (2) the likelihood of taking an advanced course in the same discipline, and (3) what grade they would expect to obtain if they were to take such a course.

Personality scores of need achievement and test anxiety were transformed into deviation scores (Z scores) and subtracted from one another. The scores were then split at the median to form two groups of high and low need achievers. Thus, the design was a 2 (high and low need achievement) X 5 (grades A, B, C, D, and F) X 2 (ability: high and low) X 2 (effort: high and low) X 2 (test difficulty: easy hard) X 2 (luck:

lucky and unlucky) factorial, with the first factor being between groups, the last four factors being repeated measures. Three separate analyses of variance were performed on each of the dependent variables.

Results

Pride-Shame. Main effects were found for grade ($F = 187.82$, $df=4/112$, $p<.01$), effort ($F = 12.97$, $df = 1/28$, $p<.01$) and test difficulty ($F = 80.36$, $df = 1/28$, $p<.01$). Feelings of pride increased with receiving a better grade, expending more effort, and when taking a more difficult test. All these main effects, however, were limited in generality by interactions. Grade interacted with ability ($F = 6.30$, $df = 4/112$, $p<.01$), effort ($F = 4.96$, $df = 4/112$, $p<.01$) and luck ($F = 4.34$, $df = 4/112$, $p<.01$). In each case the interaction was due to the fact that differences were obtained only when subjects had received a grade of A. When a grade of A had been received subjects reported more pride when they: (1) had high ability, (2) had worked hard, and (3) had been lucky. Additionally, ability interacted with effort ($F = 20.71$, $df = 1/28$, $p<.01$). When ability was low subjects reported more pride when they had worked hard than when they had not.

The need achievement and test anxiety measure was significantly related to some of the situational factors. High relative to low need achievers were less proud of their performance under luck conditions ($F = 6.23$, $df = 1/28$, $p<.02$). Additionally, with the receipt of an A grade, high as compared to low need achievers felt less pride when their A grade was associated with low ability and low effort. Further, with a failing grade, high need achievers felt more shame than low need achievers when the F grade was associated with either (a) luck, low ability and low effort or (b) low luck, high ability and low effort ($F = 3.20$, $df = 4/112$, $p<.02$).

Liklihood of Taking an Advanced Course. Main effects were present for grades ($F = 70.55$, $df = 4/112$, $p<.01$), ability ($F = 24.42$, $df = 1/28$, $p<.01$), task difficulty ($F = 5.70$, $df = 1/28$, $p<.03$), and luck ($F = 7.64$, $df = 1/28$, $p<.02$). Subjects indicated that they were more likely to take an advanced course if on the previous exam they had received a high grade, had high ability, had not worked hard, and had been lucky. However, as was the case for the pride-shame variable, these main effects are limited in generality by interactions. Grade interacted with effort ($F = 9.72$, $df = 4/112$, $p<.01$), test difficulty ($F = 3.22$, $df = 4/112$, $p<.02$), and luck ($F = 2.45$, $df = 4/112$, $p<.05$). Again, the interactions were due to the fact that differences in likelihood of taking an advanced course were only present when a grade of A had been previously received. When an A had been received subjects were more likely to take an advanced course if (1) they had worked hard on the previous course, (2) the previous course was difficult, and (3) if they had been lucky.

In addition, test difficulty interacted with effort ($F = 5.50$, $df = 1/28$, $p < .03$) and ability ($F = 4.85$, $df = 1/28$, $p < .03$). If they had previously not worked hard, subjects were more likely to want to take an advanced course if the previous one had been easy. Further, subjects who were high in ability were more likely to take an advanced course when the previous course had been difficult.

Finally, level of achievement motivation interacted with ability ($F = 4.29$, $df = 1/28$, $p < .05$). Ability, or lack of it, is a more important predictor of subsequent intended action for high than for low need achievers. High need achievers are less likely than low scorers to take an advanced course if they have low ability and more likely if they have high ability. Thus, for low need achievers, ability is not a particularly important factor in determining subsequent action.

Expected Grade in Advanced Course. Receiving a high grade in the previous course was associated with expecting a high grade on a subsequent course ($F = 449.11$, $df = 1/28$, $p < .01$). Subjects who were unlucky also predicted a higher grade ($F = 7.34$, $df = 1/28$, $p < .01$). No main effects were obtained with effort and test difficulty, however, interactions emerged between grade and effort ($F = 4.04$, $df = 4/112$, $p < .01$), and grade and ability ($F = 4.42$, $df = 4/112$, $p < .01$). Effort, high or low, did not affect predicted grade for those having received a C. However, with increasing grade previous high effort is associated with increased predicted grade, and with decreasing grade low effort is associated with a high predicted grade. The grade by ability interaction indicated that particularly at D and F grade levels subjects of low ability predicted a lower grade than those of high ability.

Discussion

The present study provides further information concerning the relationship between attribution theory and achievement motivation and behavior. Outcome of a previous course is the greatest predictor of pride-shame, taking an advanced course, and estimating one's grade. However, different attributional patterns are associated with the three dependent variables. Ability is particularly important with regard to subsequent intended action and estimation of grade but not with regard to pride and shame. This is so for people high in need achievement. Since ability is viewed as an internal and stable characteristic it is understandable that subjects would use this as a source of data for future action. The fact that high need achievers used ability to predict subsequent intended action reflects a

more realistic appraisal of their past performance and their use of it for planning subsequent action.

The results also point out that only at the extreme ends of the grade continuum do attributional factors, particularly attributions to internal factors, become important. At moderate grade levels final grade seems more important. This is consistent with the fact that subjects were presented with a normal curve of grades pointing out that only 10% received As or Fs. Since only a minority of subjects received such grades, success at a difficult task (receiving an A) and failure at an easy task (receiving an F) implies something about the characteristics of the person rather than situational or external determinants of performance. Thus, subjects receiving an A and F were more likely to associate ability and effort with pride and shame than those in the middle of the continuum. This interpretation of these verbal reports from subjects, that success at difficult and failure at easy tasks is associated more with internal than external determinants of behavior, represents an addition to the Weiner and Kukla model. Weiner and Kukla have posited that with very easy or very difficult tasks most people will either succeed or fail and these outcomes will be attributed to task factors. However, the present results indicate that when subjects consider themselves as having performed either better or worse than the majority, these performances will be attributed to internal factors. That is, given the perception of success on a task which the majority of people have not succeeded, success will likely to attributed to internal characteristics of high ability or high effort. Conversely, given the perception of failure on a task on which most have succeeded, failure will likely be attributed to the personal characteristics of low ability or low effort. The foregoing suggests that subjective probability of success has to be considered in conjunction with objective probability of success based on norms for the task in order for a person to obtain personal (internal characteristics) versus task (external characteristics) information.

Study II

The study focused on the basic premise of the present research, i.e., there are racial and/or social class differences in how success and failure are interpreted.

Subjects

One hundred and twenty fifth-grade children were selected from three schools in a school district with a population which were heterogeneous in both social class and racial background. Four groups of children were formed (middle-class whites, middle-class blacks, lower-class whites, and lower-class blacks). The mean age for each of the four groups was: middle-class whites, 11.02 (SD = .36); middle-class blacks, 12.20 (SD = .69); lower-class whites, 11.02 (SD = .58); and lower-class blacks, 11.70 (SD = .66). Children more than 2 years behind in reading level were not included. Assignment to social class was performed using the Hollingshead (1957) two-factor index. Children whose fathers were skilled or semiskilled and had completed high school education were assigned to the middle-class group and children whose fathers had completed only grade school and were unskilled workers were assigned to the lower-class group. Half of each of the four groups was male and half female.

Procedure

Subjects were assigned randomly to each of the three experimental conditions (success, failure, no feedback) with the restriction that therer were 5 males and 5 females in each of the 12 cells of the design. Thus, the design was a 2 (Race) X 2 (Social Class) X 3 (Feedback Condition) factorial with 10 subjects per cell.

Subjects were randomly assigned to four experimenters, two blacks (one male, one female) and two whites (one male, one female), with the restriction that each experimenter tested an equal number of children. Experimenters were blind concerning social class. The experimenters greeted the children and told them that a reading test was going to be administered. The children were then given a short paragraph to read and subsequently were tested for their memory of the content of the paragraph. The test consisted of eight multiple choice questions. Following the test, the experimenter scored the child's protocol, consulted a table of norms, and gave one of three feedbacks: In the success condition, the children were fold "You did much better than most boys and girls of your grade, much better." In the failure condition, "You did much worse than most boys and girls of your grade, much worse." In the no feedback condition no information was given.

Next, the children were asked to "explain" the outcome they had received by attributing their performance to four different factors; ability, effort, task difficulty, and luck. Children were asked to take poker chips out of boxes placed in front of them and were instructed as follows:

First look at this box which has nine colored chips. I want you to tell me how smart or clever you think you were in this reading test by taking chips out of the container. If you think you were very clever or very skillful you can take either seven, eight, or nine chips. If you think you were clever or skillful you may take four, five, or six chips. If you think you were not clever or skillful you can take one, two, or three chips. Go ahead now and take the chips out of the box.

In order to help the subjects take the appropriate number of chips the scale was presented on an index card. When the subjects had taken chips reflecting their perceptions of their ability, they were then, using parallel instructions, presented sequentially three other boxes representing effort, task difficulty, or luck, respectively. Order of presentation of the boxes was randomized.

Subjects in the failure condition were told, as part of the debriefing, that the experimenter had made a mistake in looking up the scores on the norm sheet and that in fact the child had done well rather than poorly. After apologizing for the error the experimenter went on to say that to rectify the mistake she would like the child to take another test. The child then performed another test and was given feedback indicating that in fact he had done well and that the results of the first test should be disregarded.

Results

Differences in objective performance, if they occurred, rather than success-failure feedback, could affect subsequent attributions. Therefore, a 2 (Race) X 2 (Social Class) X 3 (Feedback Condition) analysis of variance was performed on the number of correct responses on the reading test. No significant differences were obtained. Thus, mean differences in performance cannot account for differential attributions.

Attributions. The number of poker chips taken by each child was analyzed in a 2 (Race) X 2 (Social Class) X 3 (Feedback condition) X 4 (Attributional factor) analysis of variance with repeated measures on the final factor. A significant main effect was obtained for attributional factors ($F = 21.54$, $df = 3/324$, $p < .01$), as well as for the Attributional Factors X Feedback Condition interaction ($F = 11.93$, $df = 6/324$, $p < .01$). The interaction indicated that subjects in the failure relative to success and no feedback condition attributed lower ability and lower effort to themselves. Furthermore, subjects in the failure condition perceived themselves as having bad luck, whereas subjects in the success condition perceived themselves as being lucky.

Since the main hypotheses of the present study were concerned with possible differences in attributions to internal factors (ability and effort) versus external factors (task difficulty and luck), the poker chip data were reanalyzed combining the attributional factors along the internal-external dimension. A main effect of internality-externailty ($F = 33.67$, $df = 1/108$, $p < .001$) indicated that subjects were more likely to attribute their performance to internal factors (ability and effort) than external factors (task difficulty and luck). However, this main effect was limited in generality by a Feedback Condition X Internality-Externality interaction ($F = 17.29$, $df = 2/108$, $p < .001$). As can be seen in Table 1, among success and no feeback groups children attributed their performance more to internal factors (high ability and high effort) than to external factors. Conversely, in the failure condition, performance was attributed more to external than to internal factors.

Discussion

No racial or social class differences were found in attributions. Therefore, the data do not support the attributional analysis we have presented. But, a possible explanation of this lack of results lies in the assessment technique which was employed. Children may not have understood the relationship between the importance of the various attributional factors and the number of poker chips they were to take. Therefore, it seemed desirable to test the theory again, this time using a different assessment device.

Study III

In this investigation a different means of assessing attributions was employed -- self-reward. According to the achievement motivation literature, self-reward should be greater if success is attributed to internal vs. external factors. This prediction has, in fact, been confirmed in the Cook (1970) study which was described previously. Self-reward, then, may provide a nonverbal indicant of the extent to which internal attributions are being made.

Subjects

Ninety-six fourth and fifth graders were tested. They were divided into six groups of 16 subjects each on the basis of sex, race, and socio-economic status (determined by parental occupation and education). The groups were:

Table 1

Attribution to internal vs. external factors
as a function of feedback condition

Feedback Condition	Attributional Factor	
	Internal	External
Success	10.92	7.48
Failure	8.72	9.32
No Feedback	11.04	7.76

white, male, low SES
white, male, moderate SES
white, female, low SES
white, female, moderate SES
black, male, low SES
black, female, low SES

The two other possible groups (moderate SES blacks) could not be formed due to an absence of sufficient numbers of blacks having moderate social class.

Procedure and apparatus.

The subjects was first seated in front of the apparatus and his task was explained to him. The apparatus consisted of a plywood board on which two light bulbs had been mounted, side by side. Subjects were told that their task was to try to find out which of the two lights would illuminate on any given trial. He indicated his choice by pushing a button corresponding to one of the two lights and holding it down until the light came on. Trials were divided into blocks which were separated by the ringing of a bell. Subjects were told to stop after each bell and reflect on how well they had done (how many times his choice had been correct). He was told that he could then reward himself by taking chips out of a container -- the better he did the more chips.

Four blocks of 10 trials each were run. Outcomes were experimenter determined and two of the four blocks were designated "easy" and two as "difficult." On the easy blocks subjects were correct 80% of the time and on the difficult blocks 50%. Order of blocks was determined randomly.

Results

The number of self-rewards was assessed by a 6 (Groups) X 2 (Difficult - Easy Trials) analysis of variance. The data are presented in Table 2. None of the main effects nor the interaction approached significance (all ps $>$ .10).

Discussion

As in the previous study, the basic hypothesis of the report failed to be supported by the data. There were no self-reward differences across racial, social class, or sex groups.

Table 2

Number of self-rewards

Group	Condition	
	Easy	Difficult
white, male, low SES	51.31	53.75
white, male, moderate SES	58.25	41.75
white, female, low SES	38.00	51.31
white, female, moderate SES	48.18	37.94
black, male, low SES	48.56	45.37
black, female, low SES	54.87	36.81

CONCLUSIONS

The results of the present series of investigations offer little support for the basic hypotheses under consideration. In Studies II and III where attempts were made to assess attributional differences as a function of race and social class, no between-groups differences were found.

Yet the hypothesis which was based on the extensive data of the Coleman report should not be abandoned. There are several reasons for this conclusion. First, there is the obvious caution concerning the fallacy of concluding the null hypothesis. When no differences are obtained in an investigation the problem could be equally with the methods employed as with the theoretical hypothesis being tested. We feel this is a particularly important consideration here. Earlier we noted a possible methodological problem in the assessment procedure employed in Study I. Study II, while employing a nonverbal measure, is assessing a behavior which is one step removed from attributions themselves. That is, the hypothesized chain is Internal Attributions $\longrightarrow$ more Self-Reward. If the link between these two variables is shaky, self-reward would be a poor measure of attributions. Finally, our strategy of subject selection may have contributed to our lack of results. Coleman et al. found an association between sense of control and race. Yet, not all blacks are low on this dimension, nor are all whites high. Therefore, simply using race and social class variables in subject selection may not be entirely adequate.

In sum, while the present results are discouraging we hope to continue this line of work, continuing to improve our measurement procedures and our subject selection criteria.

References

Atkinson, J. W. An introduction to motivation. Princeton, N.J.: Van Nostrand, 1964.

Coleman, J. S., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., and York, R. L. Equality of educational opportunity. U. S. Department of Health, Education and Welfare, Washington, D. C.: U. S. Government Printing Office, 1966.

Cook, R. Relation of achievement motivation and attribution to self-reinforcement. Unpublished doctoral dissertation. University of California, Los Angeles, 1970.

Heckhausen, H. The anatomy of achievement motivation. N. Y. : Academic Press, 1967.

Hollingshead, A. B. Two factor index of social position. Mimeograph, 1957.

Jackson, D. Personality Research Form. Goshen, N. Y.: Research Psychologists Press, 1965.

Kelly, H. H. Attribution theory in social psychology. In D. Levine (Ed.), Nebraska symposium on motivation, 1967, pp. 192-241.

Pettigrew, T. F. The Negro and education: Problems and proposals. In I. Katz and P. Gurin (Eds.), Race and the social sciences, N. Y. : Basic Books, 1969, pp. 49-113.

Sarason, I. G. and Ganzer, V. J. Anxiety, reinforcement, and experimental instructions in a free verbalization situation. Journal of Abnormal and Social Psychology, 1962, 65, 300-307.

Storms, M. D. and Nisbett, R. E. Insomnia and the attribution process. Unpublished manuscript.

Valins, S. and Ray, A. A. Effects of cognitive desensitization on avoidance behavior. Journal of Personality and Social Psychology, 1967, 7, 345-350.

Weiner, B. New conceptions in the study of achievement motivation. In B. A. Maher (Ed.), Progress in experimental personality research. V5, N.Y.: Academic Press, 1970, pp. 68-111.

Weiner, B. and Kukla, A. An attributional analysis of achievement motivation. Journal of Personality and Social Psychology, 1970, 15, No. 1, 1-20.

Weiner, B., Frieze, Irene, Kukla, A., and Reed, L. Perceiving the causes of success and failure. In E. E. Jones, D. Kanonse, H. H. Kelly, R. Nisbett, S. Valins, and B. Weiner (Eds.), Attribution: perceiving the causes of behavior, in press.